Chapter Comm 63

ENERGY CONSERVATION

Comm 63.0003 Application.

(3) ALTERATIONS.

(c) *Lighting systems.* 1. a. When an alteration of an interior lighting system increases the connected interior lighting load of the building, the entire interior lighting system is required to comply with ss. Comm 63.1044 to 63.1049.

b. Where an alteration of a building area includes replacement of more than 50% of the existing lighting fixtures in the altered area, the portion of the lighting system in the altered area is required to comply with ss. Comm 63.1044 to 63.1049.

2. a. When an alteration of an exterior lighting system increases the connected exterior lighting load of the building, the entire exterior lighting system is required to comply with ss. Comm 63.1041 to 63.1043.

b. Where an alteration of an exterior building surface includes replacement of more than 50% of the existing lighting fixtures on the altered surface, the portion of the lighting system on the altered surface is required to comply with ss. Comm 63.1041 to 63.1043.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: r. and recr. (3) (c) 1. and 2. Register December 2004 No. 588, eff. 1-1-05.**

Comm 63.0202 General definitions.

(2) Substitute the following definitions for the corresponding definitions listed in IECC section 202:

(a) "Approved" has the meaning given in s. Comm 62.0202 (2) (a).

(b) "Multifamily dwelling" has the meaning given in s. Comm 61.04 (4).

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: r. and recr. (2) Register December 2004 No. 588, eff. 1-1-05.**

Comm 63.0402 System analysis. (1) ENERGY ANALYSIS. This is a department informational note to be used under IECC section 402.1:

Note: The federal Department of Energy has developed RES*check*™, a computer program that may be used in demonstrating compliance for a residential building which has no more than 3 stories and has 3 or more dwelling units. The RES*check* program may be downloaded at http://www.energycodes.gov/. When using the program, the applicable code must be defined as the "2000 IECC." The use of the "Wisconsin" option will apply requirements associated with a 1 or 2 family dwelling, which are more restrictive than those associated with low-rise multifamily buildings.

(2) APPROVED CALCULATION TOOL. Substitute the following wording for the requirements in IECC section 402.4.7: The same calculation tool shall be used to estimate the annual energy usage for space heating and cooling of the Standard design and the Proposed design. The calculation tool shall be approved by the department.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: renum. to be (2), cr. (1) Register December 2004 No. 588, eff. 1-1-05.**

Comm 63.0502 Building envelope.

(3) COMPLIANCE BY PRESCRIPTIVE SPECIFICATION ON AN INDIVIDUAL COMPONENT BASIS. (a) *General.* Substitute the following wording for the requirements in IECC section 502.2.4: For Type A-2 residential buildings with a window area less than or equal to 20%, 25%, or 30% of the gross exterior wall area, the thermal resistance of insulation applied to the opaque building envelope components shall be greater than or equal to the minimum *R*-values, and the thermal transmittance of all fenestration assemblies shall be less than or equal to the maximum U–factors shown in IECC Tables 502.2.4(7), 502.2.4(8), or 502.2.4(9), as applicable. IECC sections 502.2.4.1 to 502.2.4.17 shall apply to the use of these tables.

(b) *Floors.* Substitute the following wording for the requirements in IECC section 502.2.4.8: Floor R–values shall apply to floors over unconditioned spaces and floors over outside air.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: r. and recr. (3) Register December 2004 No. 588, eff. 1-1-05.**

Comm 63.0503 Building mechanical systems and equipment.

(2) DISTRIBUTION SYSTEM, CONSTRUCTION AND INSULATION. (a) *Hydronic piping insulation.* Substitute the following wording for the requirements and the exceptions in IECC sections 503.3.3.1 and 503.3.3.2 and IECC Table 503.3.3.1: All system piping shall be thermally insulated in accordance with s. Comm 63.1029 (1) and (2).

(b) *Duct and plenum insulation.* Substitute the following wording for the requirements and the exceptions in IECC section 503.3.3.3 and IECC Table 503.3.3.3: Duct and plenum insulation shall be provided in accordance with s. Comm 63.0803 (2) (f).

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: renum. (2) (c) to (e) to be (2) (d) to (f), cr. (2) (c), r. and recr. (2) (d) Register June 2002 No. 558, eff. 7-1-02; **CR 04-016: am. (2) (a) and (b) Register December 2004 No. 588, eff. 1-1-05.**

Comm 63.0505 Lighting power budget. Substitute the following informational note for the requirements and the exception in IECC section 505.2:

Note: See ss. Comm 63.1040 to 63.1053 for requirements for lighting systems.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: r. and recr. Register December 2004 No. 588, eff. 1-1-05.**

Comm 63.0605 Electrical power and lighting. (1) ELECTRICAL ENERGY CONSUMPTION. This is a department rule in addition to the requirements in IECC chapter 6: In residential buildings having individual dwelling units, provisions shall be made to determine the electrical energy consumed by each tenant by separately metering individual dwelling units.

(2) LIGHTING POWER BUDGET. This is a department informational note to be used under IECC chapter 6:

Note: See ss. Comm 63.1040 to 63.1053 for requirements for lighting systems.

History: CR 04-016: cr. Register December 2004 No. 588, eff. 1-1-05.

Comm 63.0803 Building mechanical systems.

(2) SIMPLE HVAC SYSTEMS AND EQUIPMENT.

(g) *Piping insulation.* Substitute the following wording for the requirements in IECC section 803.2.9: All piping serving as part of a heating or cooling system shall be thermally insulated in accordance with s. Comm 63.1029 (1) and (2).

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: r. and recr. (2) (f) 3. Register June 2002 No. 558, eff. 7-1-02; **CR 04-016: cr. (2) (g) Register December 2004 No. 588, eff. 1-1-05.**

Comm 63.0806 Lighting power for the standard design. Substitute the following wording for the requirements in IECC section 806.4.7: The lighting power for the Standard design shall be the maximum allowed in accordance with s. Comm 63.0805. Where the occupancy of the building is not known, the lighting power density shall be 1.5 watts per square foot.

History: CR 04-016: cr. Register December 2004 No. 588, eff. 1-1-05.

Comm 63.1015 Component standards option.

(5) THERMAL TRANSMITTANCE VALUES FOR ROOFS, WALLS AND CEILINGS NEXT TO UNCONDITIONED SPACES, AND FLOORS OVER UNCONDITIONED SPACES. (a) The U–values for the building roofs, walls and ceilings next to unconditioned spaces, and floors over unconditioned spaces shall be less than or equal to those listed in the appropriate ACP table given in Figures 63.1015-1 to 63.1015-4.

(6) THERMAL RESISTANCE VALUE FOR SLAB–ON–GRADE FLOORS. (a) Unheated slab–on–grade floors shall have insulation around the perimeter of the floor with the thermal resistance (R_u) of the insulation as listed in the appropriate ACP table given in Figures 63.1015-1 to 63.1015-4.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: am. (5) (a) and (6) (a) Register December 2004 No. 588, eff. 1-1-05**.

Comm 63.1019 Required calculation procedures.

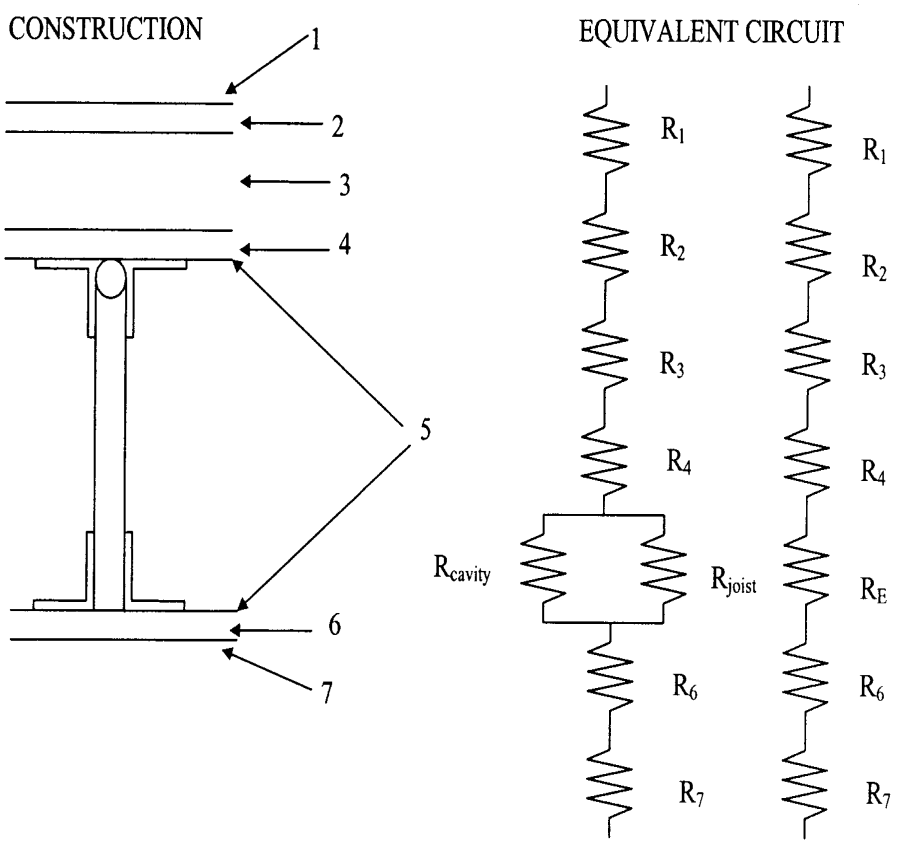
(3) THERMAL TRANSMITTANCE (U_I) OF AN INDIVIDUAL PATH THROUGH AN ENVELOPE ASSEMBLY.

(a) *Thermal transmittance of opaque elements.* The thermal transmittance of opaque elements of assemblies shall be determined using a series path procedure with correction for the presence of parallel paths within an element of the envelope assembly such as wall cavities with parallel paths through insulation and studs. An acceptable procedure shall be used, as specified in Table 63.1019–1. Figure 63.1019–1 illustrates a typical roof assembly.

Table 63.1019-1
Calculation Procedures for Evaluating Major Series and Parallel Heat Flow Paths

Acceptable Procedures for Determining U_i for Opaque Elements		
Sheathing	Framing	
	Metal	Nonmetal
Metal on One or Both Sides	Tests - s. Comm 63.1019 (3) (a) 1. a. Thermal Bridges - s. Comm 63.1019 (3) (a) 1. c.	Tests - s. Comm 63.1019 (3) (a) 1. a. Series or Parallel Path - s. Comm 63.1019 (3) (a) 2.
Nonmetal on Both Sides	Tests - s. Comm 63.1019 (3) (a) 1. a. Parallel Path Correction Factor - s. Comm 63.1019 (3) (a) 1. b. Zone Method - s. Comm 63.1019 (3) (a) 1. d.	Tests - s. Comm 63.1019 (3) (a) 1. a. Series or Parallel Path - s. Comm 63.1019 (3) (a) 2.

Figure 63.1019-1
Calculation Procedure for Thermal Resistance of a Typical Roof Assembly



Where $1/R_e = \frac{(1 - \%\ \text{joist})}{\text{R cavity}} + \frac{\%\ \text{Joist}}{\text{R joist}}$ or $R_e = \text{R cavity} \times F_c$

R_e is the equivalent resistance of the element contacting the parallel path. F_c is the parallel path correction factor.

1. b. Using the thermal resistance of those roof and wall assemblies listed in Tables 63.1019-2 and 63.1019-3 shall be corrected using the following parallel path correction factor procedure:

Considering the total resistance of the series path:

$U_i = 1/R_t$

$R_t = R_i + R_e$

where:

R_t = The total resistance of the envelope assembly.

R_i = The resistance of the series elements (for i = 1 to n) excluding the parallel path element(s)

R_e = The equivalent resistance of the element containing the parallel path, the value of R_e is:

R_e = R-value of insulation x F_c

The Parallel Path Correction Factors (F_c) may be obtained from tests conducted using procedures listed in s. Comm 63.1018. Parallel Path Correction Factors for some envelope assemblies are listed in Tables 63.1019-2 and 63.1019-3.

Table 63.1019-2
Roofs
Parallel Path Correction Factors[a]

Bridged R-Value	0	5	10	15	20	25	30	35	40	45	50	55
Correction Factor	1.0	0.96	0.92	0.88	0.85	0.81	0.79	0.76	0.73	0.71	0.69	0.67

[a] Table values are based upon metal trusses with 4-foot spacing that penetrate the insulation, and 0.66-inch diameter cross members every 1 foot.

Table 63.1019-3
Wall Sections with Metal Studs
Parallel Path Correction Factors

Size of Members	Gauge of Stud[a]	Spacing of Framing, in.	Cavity Insulation R-Value	Correction Factor	Effective Framing/Cavity R-Values
2 x 4	18-16	16 o.c.	R-11	0.50	R-5.5
			R-13	0.46	R-6.0
			R-15	0.43	R-6.4
2 x 4	18-16	24 o.c.	R-11	0.60	R-6.6
			R-13	0.55	R-7.2
			R-15	0.52	R-7.8
2 x 6	18-16	16 o.c.	R-19	0.37	R-7.1
			R-21	0.35	R-7.4
2 x 6	18-16	24 o.c.	R-19	0.45	R-8.6
			R-21	0.43	R-9.0
2 x 8	18-16	16 o.c.	R-25	0.31	R-7.8
2 x 8	18-16	24 o.c.	R-25	0.38	R-9.6

[a] These factors can be applied to metal studs of this gauge or thinner.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: am. (3) (a) (intro.) and 1. b., renum. Tables 63.1019-1 and 63.1019-2 to be Tables 63.1019-2 and 63.1019-3, renum. Figures 63.1019-1 and 63.1019-2 to be Table 63.1019-1 and Figure 63.1019-1 Register December 2004 No. 588, eff. 1-1-05.**

Comm 63.1026 Temperature controls.

(2) ZONE CONTROLS.

(b) *Zone controls for comfort heating.* Where used to control comfort heating, zone thermostatic controls shall be capable of being set locally or remotely by adjustment or selection of sensors down to 55ºF or lower.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: am. (2) (b) Register December 2004 No. 588, eff. 1-1-05.**

Table 63.1029
Plumbing and HVAC Piping Minimum Insulation (R-Value)

	Insulation Conductivity[a]		**Nominal Pipe Diameter**					
Fluid Design Operating Temp. Range, ºF	Conductivity Range Btu·in./ -(h·ft^{2}·ºF)	Mean Rating Temp. ºF	Runouts[b] up to 2 inches	1 inch and less	1-1/4 to 2 inches	2-1/2 to 4 inches	5 & 6 inches	8 inches & up
Heating systems (Steam, Steam Condensate, and Hot Water)								
Above 350	0.32-0.34	250	R-4.4	R-4.4	R-7.4	R-8.8	R-10.3	R-10.3
251-350	0.29-0.31	200	R-4.8	R-4.8	R-8.1	R-8.1	R-11.3	R-11.3
201-250	0.27-0.30	150	R-3.3	R-3.3	R-5.0	R-6.7	R-6.7	R-11.7
141-200	0.25-0.29	125	R-1.8	R-1.8	R-5.2	R-5.2	R-5.2	R-5.2
105-140	0.24-0.28	100	R-1.8	R-1.8	R-3.6	R-3.6	R-3.6	R-5.4
Domestic and Service Hot Water systems[c]								
105 and greater	0.24-0.28	100	R-1.8	R-3.6	R-3.6	R-5.4	R-5.4	R-5.4
Cooling systems (Chilled water, brine, and refrigerant)[d]								
40-55	0.23-0.27	75	R-1.9	R-1.9	R-2.8	R-3.7	R-3.7	R-3.7
Below 40	0.23-0.27	75	R-3.7	R-3.7	R-5.6	R-5.6	R-5.6	R-5.6

a For insulation outside the state conductivity range, the minimum thickness (T) shall be determined as follows: $T=PR\left[(1+t/PR)^{K/k}-1\right]$, where T = minimum insulation thickness for material with conductivity K, in.; PR = actual outside radius of pipe, in.; t = insulation thickness, in.; K = conductivity of alternate material at mean rating temperature indicated for the applicable fluid temperature; and k = the lower value of the conductivity range listed for the applicable fluid temperature.

b Runouts to individual terminal units not exceeding 12 ft. in length.

c Applies to recirculating sections of service or domestic hot water systems and first 8 ft. from storage tank for nonrecirculating systems.

d The required minimum thickness does not consider water vapor transmission and condensation.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: r. and recr. (4) Register June 2002 No. 558, eff. 7-1-02; **CR 04-016: r. and recr. Table 63.1029 Register December 2004 No. 588, eff. 1-1-05.**

Comm 63.1050 Lighting controls that must be installed.

(6) EXTERIOR LIGHTING CONTROLS. Except in lighting in parking garages, tunnels, and large covered areas that require illumination during daylight hours, exterior lighting shall be controlled by a directional photocell or astronomical time switch that automatically turns off the exterior lighting when daylight is available. Time switches shall be capable of maintaining the correct time during a power outage lasting up to 10 hours.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: am. (6) Register December 2004 No. 588, eff. 1-1-05.**

Chapter Comm 64

HEATING, VENTILATING AND AIR CONDITIONING

Comm 64.0100 Changes, additions or omission to the International Mechanical Code (IMC). Changes, additions or omissions to the IMC are specified in this subchapter and are rules of the department and are not requirements of the IMC.

Note: The sections in this subchapter are generally numbered to correspond with the section numbering in the IMC; e.g., s. Comm 64.0102 corresponds to IMC section 102.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: am. Register December 2004 No. 588, eff. 1-1-05**.

Comm 64.0101 General. The requirements in IMC section 101 are not included as part of this chapter.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: renum. (1) (a), (b) and (2) to be Comm 64.0101, 64.0102 (1) and 64.0103 Register December 2004 No. 588, eff. 1-1-05.**

Comm 64.0102 Applicability. (1) The requirements in IMC sections 102.1, 102.2, 102.4 to 102.7 and 102.9 are not included as part of this chapter.

(2) This is a department rule in addition to the requirements in IMC section 102.3:

(a) The designer or installer shall provide the owner with written instructions for the operation and maintenance of the system and equipment. An operating and maintenance manual shall be provided to the building owner or operator. The manual shall include basic data relating to the operation and maintenance of heating, ventilating and air conditioning (HVAC) systems and equipment.

(b) Required routine maintenance actions shall be clearly identified. Where applicable, HVAC controls information such as diagrams, schematics, control sequence descriptions, and maintenance and calibration information shall be included.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: (1) renum. from Comm 64.0101 (1) (b), renum. (intro.), (1) and (2) to be (2) Register December 2004 No. 588, eff. 1-1-05.**

Comm 64.0103 Scope. The requirements in IMC sections 103 to 109 are not included as part of this chapter.

History: CR 04-016: renum. from Comm 64.0101 (2) and am. Register December 2004 No. 588, eff. 1-1-05.

Comm 64.0300 Specific criteria for operating rooms and autopsy rooms. History: CR 01-135: cr. Register June 2002 No. 558, eff. 7-1-02; **CR 04-016: renum. to be Comm 64.0603 (2) Register December 2004 No. 588, eff. 1-1-05**.

Comm 64.0301 General regulations. (1) SCOPE. Substitute the following wording for the requirements in IMC section 301.1: This chapter shall govern the approval and installation of all equipment and appliances that comprise parts of the building mechanical systems regulated by this code in accordance with subch. 1.

(2) ENERGY UTILIZATION. This is a department informational note to be used under IMC section 301.2:

Note: See ch. Comm 63 for additional requirements.

(3) LISTED AND LABELED. Substitute the following wording for the requirements in IMC section 301.4:

(a) *General.* All appliances regulated by this chapter shall be listed and labeled as specified in this chapter, unless approved by the department in accordance with par. (b) or the product approval criteria in s. Comm 61.50.

(b) *Unlisted equipment.* The department may approve an installation of unlisted equipment after receipt of all of the following:

1. A statement from the equipment manufacturer indicating the national standard with which the equipment complies.

2. The results of a test conducted by a Wisconsin registered engineer on the output and safety controls in accordance with the national standard used by the manufacturer.

(4) ELECTRICAL. Substitute the following wording for the requirements in IMC section 301.7: Electrical wiring, controls and connections to equipment and appliances regulated by this chapter shall be in accordance with ch. Comm 16.

(5) PLUMBING CONNECTIONS. Substitute the following wording for the requirements in IMC section 301.8: Potable water supply and building drainage system connections to equipment and appliances regulated by this chapter shall be in accordance with chs. Comm 81 to 87.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: r. and recr. (2) (a) and (b) Register June 2002 No. 558, eff. 7-1-02; **CR 04-016: renum. (1) to (4) to be (2) to (5) and am. (3) (a), cr. (1) Register December 2004 No. 588, eff. 1-1-05.**

Comm 64.0401 Ventilation.

(4)

Note: See NFPA standard 45, Fire Protection for Laboratories Using Chemicals, adopted under s. Comm 62.3500, for chemical fume hood exhaust location. Health care and related facilities may have additional requirements.

Table 64.0403 – (Partial Table)
Required Minimum Inside Temperature And Outdoor Ventilation Air

Occupancy Classification[i]	Minimum Inside Temperature (degrees F)	Ventilation Requirements - Basis of Capacity			
		Estimated Maximum Occupant Load (persons per 1,000 sq. ft.)[a]	Natural Ventilation Allowed	Exhaust [e] (cfm/net sq. ft. floor area)	Air Change Rate [k] (minimum air change per hour with A/C)
Specialty shops					
Car washes, enclosed:					
Self-serve fully automated	NMR	---	yes	---	---
All other types[p]	60	---	no	0.5	---
Utility and public spaces					
Elevator cars [g]	NMR	---	no	1.0	---

p For a facility having a portion that is automated with a conveyor system, the net floor area may be calculated as including only the floor area between the termination of the conveyor system and the vehicle-exit door.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-135: renum. (3) to be (3) (b), cr. (3) (a), (4) (a) 6. and (5) (d), am. (5) (a), (b) 1. a., (c) 1. and (6) Table; CR 01-139: renum. (3) to (6) to be (4), (6), (8) and (9), cr. (3), (5) and (7), am. (6) Table, r. and recr. (6) Register June 2002 No. 558, eff. 7-1-02; **CR 04-016: am. Table 64.0403 Register December 2004 No. 588, eff. 1-1-05**.

Comm 64.0507 Commercial kitchen hoods. (1) EXCEPTIONS. (a) Substitute the following wording for the exception in IMC section 507.1: Factory-built commercial exhaust hoods which are tested in accordance with UL 710, listed, labeled and installed in accordance with IMC section 304.1 shall not be required to comply with IMC sections 507.4, 507.7, 507.11, 507.12, 507.13, 507.14, and 507.16.

(b) These are additional department exceptions to the requirements in IMC section 507.1:

1. Factory-built commercial cooking recirculating systems which are tested in accordance with UL 197, listed, labeled and installed in accordance with IMC section 304.1 shall not be required to comply with IMC sections 507.4, 507.5, 507.7, 507.12, 507.13, 507.14 and 507.15.

2. Net exhaust volumes for hoods shall be permitted to be reduced during no-load cooking conditions, where engineered or listed multi-speed or variable-speed controls automatically operate the exhaust system to maintain capture and removal of cooking effluents as required by IMC section 507.

(2) TYPE I AND TYPE II HOODS. Substitute the following wording for the requirements in IMC sections 507.2 to 507.2.3:

(a) A Type I or Type II hood shall be installed at or above all commercial food cooking appliances in accordance with pars. (b) and (c). Where any cooking appliance under a single hood requires a Type I hood, a Type I hood shall be installed. Where a Type II hood is required, a Type I or Type II hood shall be installed.

(b) Type I hoods shall be installed where cooking appliances produce grease vapors or smoke, such as occurs with griddles, fryers, broilers, ovens, ranges and wok ranges.

(c) Type II hoods shall be installed where cooking or dishwashing appliances produce heat or steam and do not produce grease vapors or smoke, such as steamers, kettles, pasta cookers and dishwashing machines.

(d) Exhaust hoods are not required for the following appliances:

1. Under-counter-type commercial dishwashing machines.

2. Dishwashers and potwashers that are provided with heat and water vapor exhaust systems which are supplied by the appliance manufacturer and are installed in accordance with the manufacturer's instructions.

(e) Domestic cooking appliances utilized for commercial purposes shall be provided with Type I or Type II hoods as required for the type of appliances and processes in accordance with pars. (a) to (c).

(3) CAPACITY OF HOODS. Substitute the following wording for the introductory paragraph in IMC section 507.13: A kitchen exhaust hood shall be provided with a capture velocity to capture the grease vapors, smoke, heat, or steam effectively and may be designed either through engineering analysis, or based on IMC section 507.13 and the requirements in IMC sections 507.13.1 to 507.13.4 where:

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. Register June 2002 No. 558, eff. 7-1-02; **CR 04-016: renum. to be (3) and am., cr. (1) and (2) Register December 2004 No.588, eff. 1-1-05**.

Comm 64.0513 Smoke control systems. Substitute the following wording for the requirements in IMC section 513.3: In addition to the inspection and test requirements which buildings, structures and parts thereof are required to undergo, smoke control systems subject to the provisions of section 909 of the *International Building Code* shall undergo inspections and tests sufficient to verify the proper commissioning of the smoke control design in its final installed condition. The design submission accompanying the construction documents shall clearly detail procedures and methods to be used and the items subject to such inspections and tests. Such commissioning shall be in accordance with generally accepted engineering practice and, where possible, based on published standards for the particular testing involved.

History: CR 04-016: cr. Register December 2004 No. 588, eff. 1-1-05.

Comm 64.0603 Duct construction and insulation. **(1)** DHFS LICENSED FACILITIES. This is a department informational note to be used under IMC sections 603.3 and 603.4:

Note: For DHFS licensed healthcare facilities as specified in chs. HFS 124, 131, 132, and 134, also refer to the following standards: Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA), HVAC Duct Construction Standards-- Metal and Flexible, 1995 edition.

(2) SPECIFIC CRITERIA FOR OPERATING ROOMS AND AUTOPSY ROOMS. This is a department rule in addition to the requirements in IMC section 603.15: In operating rooms of hospitals and ambulatory surgery centers rooms and autopsy rooms, the bottoms of ventilation supply and return openings shall be at least 3 inches above the floor.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: renum. to be (1), (2) renum. from Comm 64.0300 and am. Register December 2004 No. 588, eff. 1-1-05.**

Comm 64.0607 Ducts and air-transfer openings. **(1)** PENETRATIONS OF SHAFT ENCLOSURES. Substitute the following wording for exception 3 in IMC section 607.5.5.1: Ducts are used as part of an approved smoke control system designed and installed in accordance with IBC section 909, and where the fire damper will interfere with the operation of the smoke control system.

(2) EXCEPTIONS. These are additional department exceptions to the requirements in IMC section 607.5.5.1:

(a) In Group B occupancies, equipped throughout with an automatic sprinkler system in accordance with IBC section 903.3.1.1, smoke dampers are not required at penetrations of shafts where bathroom and toilet room exhaust openings have steel exhaust subducts with a wall thickness of at least 0.019 inches that extend at least 22 inches vertically and the exhaust fan at the upper terminus, powered continuously in accordance with the provisions of IBC section 909.11, maintains airflow upward to the outside.

(b) Smoke dampers are not required at penetration of exhaust or supply shafts in parking garages that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.

(c) Smoke dampers are not required in ducts that are used as part of an approved mechanical smoke control system, designed and installed in accordance with IBC section 909, and the smoke dampers will interfere with the operation of the smoke control system.

(d) Smoke dampers are not required in ducts that are used in the exhaust portion of systems which are designed and installed in accordance with NFPA 45.

(3) THROUGH PENETRATIONS. Substitute the following wording for the requirements in IMC section 607.6.1:

(a) Except as provided in par. (b), in occupancies other than Groups I-2 and I-3, a duct and air transfer opening system constructed of approved materials in accordance with this code that penetrates a fire-resistance-rated floor/ceiling assembly that connects not more than two stories is permitted without shaft enclosure protection provided a fire damper is installed at the floor line.

(b) In Group R occupancies, a duct may penetrate three floors or less without a fire damper at each floor provided it meets all of the following requirements:

1. The duct shall be contained and located within the cavity of a wall and shall be constructed of steel not less than 0.019 inch (0.48 mm) (26 gauge) in thickness.

2. The duct shall open into only one dwelling unit or sleeping unit and the duct system shall be continuous from the unit to the exterior of the building.

3. The duct shall not exceed 4-inch nominal diameter and the total area of such ducts shall not exceed 100 square inches for any 100 square feet of floor area.

4. The annular space around the duct is protected with materials that prevent the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E 119 time temperature conditions under a minimum positive pressure differential of 0.01 inch of water at the location of the penetration for the time period equivalent to the fire-resistive rating of the construction penetrated.

5. Grille openings located in a ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly shall be protected with a ceiling radiation damper in accordance with IMC section 607.6.2.

(4) MEMBRANE PENETRATIONS. Substitute the following wording for the requirements in IMC section 607.6.2:

(a) *Ceiling membranes.* Duct systems constructed of approved materials in accordance with this code that penetrate the ceiling membrane of a fire-resistance-rated floor/ceiling or roof/ceiling assembly shall be protected with one of the following:

1. A fire-resistance-rated shaft enclosure in accordance with IBC sections 707 and 712.4.

2. An approved ceiling radiation damper installed at the ceiling line where the duct system penetrates the ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly.

3. An approved ceiling radiation damper installed at the ceiling line where a diffuser with no duct attached penetrates the ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly.

(b) *Ceiling radiation dampers*. Ceiling radiation dampers utilized under par. (a) shall be tested in accordance with UL 555C and installed in accordance with the manufacturer's installation instructions and listing. Ceiling radiation dampers are not required where either of the following apply:

1. ASTM E 119 fire tests have shown that ceiling radiation dampers are not necessary in order to maintain the fire-resistance rating of the assembly.

2. Exhaust duct penetrations are protected in accordance with IBC section 711.4.2 and the exhaust ducts are located within the cavity of a wall, and do not pass through another dwelling unit or tenant space.

History: CR 04-016: cr. Register December 2004 No. 588, eff. 1-1-05.

Comm 64.0801 Chimneys and vents.

(2) This is a department rule in addition to the requirements in IMC section 801.2: Portable or permanently installed, fuel-fired, unvented room heaters are prohibited.

Note: See s. Comm 65.0620 for prohibition of portable, gas-fired, unvented room heaters.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: am. (2) Register December 2004 No. 588, eff. 1-1-05**.

Comm 64.1500 Referenced standards.

(2) This is a department rule in addition to the requirements in IMC chapter 15: The following standards are hereby incorporated by reference into this code:

(a) AIA Guidelines for Design and Construction of Hospital and Health Care Facilities, 1996-97.

(b) UL 197-93, Commercial Electric Cooking Appliances – With Revisions Through January 2000.

Note: NFPA standards may be purchased from the National Fire Protection Association, One Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

AIA guidelines may be purchased from the American Institute of Architects, Order Department, 9 Jay Gould Court, P.O. Box 753, Waldorf, MD 20601.

UL standards may be purchased from Underwriters Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

Copies of the standards adopted under this section are on file in the offices of the department, the secretary of state, and the revisor of statutes.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. Register June 2002 No. 558, eff. 7-1-02; correction in (1) made under s. 13.93 (2m) (b) 7., Stats., Register April 2003 No. 568; **CR 04-016: r. and recr. (2) Register December 2004 No. 588, eff. 1-1-05.**

Chapter Comm 65

FUEL GAS APPLIANCES

Comm 65.0101 Administration. Except for IFGC section 102.8, the requirements in IFGC chapter 1 are not included as part of this chapter.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: am. Register December 2004 No. 588, eff. 1-1-05**.

Comm 65.0202 Definitions.

(2) This is a department definition in addition to the definitions in IFGC section 202: "DHFS" means the department of health and family services.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; corrections made under s. 13.93 (2m) (b) 1. and 7., Stats., Register April 2003 No. 568; **CR 04-016: am. (2) Register December 2004 No. 588, eff. 1-1-05.**

Comm 65.0301 General regulations. (1) SCOPE. Substitute the following wording for the requirements in IFGC section 301.1: This chapter shall govern the approval and installation of all equipment and appliances that comprise parts of the installations regulated by this code in accordance with ch. Comm 65 subch. I.

(2) LISTED AND LABELED. Substitute the following wording for the requirements in IFGC section 301.3: The requirements as specified in s. Comm 64.0301 (3) shall apply.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. Register June 2002 No. 558, eff. 7-1-02; **CR 04-016: r. and recr. Register December 2004 No. 588, eff. 1-1-05.**

Comm 65.0305 Installation.

(1) ADDITIONAL REQUIREMENTS. The requirements in IMC sections 304.2, 304.8, 304.9, 304.10, and 305, as adopted in s. Comm 61.05, shall apply to gas appliance installations.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: renum. (1) (intro.), (a) and (b) to be (intro.), (1) and (2) Register June 2002 No. 558, eff. 7-1-02; **CR 04-016: am. (1) Register December 2004 No. 588, eff. 1-1-05.**

Comm 65.0620 Unvented room heaters. Substitute the following wording for the requirements in IFGC section 620: Portable, gas-fired, unvented room heaters are prohibited.

Note: See s. Comm 64.0801 (2) for prohibition of unvented room heaters that are fired with other fuels.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; **CR 04-016: r. and recr. Register December 2004 No. 588, eff. 1-1-05**.

Comm 65.0700 Referenced standards. This is a department rule in addition to the requirements in IFGC chapter 7: The following standard is hereby incorporated by reference into this code: ANSI Z223.1/NFPA 54-2002, National Fuel Gas Code.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. Register June 2002 No. 558, eff. 7-1-02; **CR 04-016: am. Register December 2004 No. 588, eff. 1-1-05**.